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Meta-Analysis Madness in Vaccine-Autism Science

By JB Handley

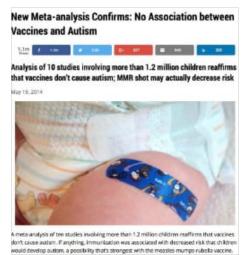
Inexplicably, a 2014 "meta-analysis" of published science exploring the relationship between vaccines and autism has become the evidence du jour to prove "vaccines don't cause autism." The inadequacies of the 2014 paper are simple to understand, and reveal much about the current environment.

SYDNEY, Australia—Luke E.
Taylor, a "Pediatric Registrar" at
the Children's Hospital at
Westmead in Sydney, Australia,
may not realize that his surname
has been co-opted by many in
the vitriolic vaccine-autism
science debate. A college
graduate in 2009, Mr. Taylor (he's
not a doctor) was only one year
removed from getting his
Master's Degree in Medicine in
2014 when he authored the only
research paper he's ever
published, Vaccines are not



Luke E. Taylor

associated with autism: An evidence-based meta-analysis of case-control and cohort studies. Today, his paper is commonly referred to as the "Taylor study" and it has become, surprisingly, the evidence du jour that "vaccines don't cause autism."



Roughly one month ago, Mr. Taylor's 2014 paper was being widely circulated on Facebook, and I heard from many asking me to comment on the study. Worse, the link many were sharing actually came from a summary of the study provided by Autism Speaks, who treated the Taylor study (back in May 2014) as a nail in the coffin on the vaccine-autism debate.

I'm perpetually disappointed in Autism Speaks, and the way they

framed this study was no exception. Here's a quote from their summary of the Taylor paper:

"Meta-analysis can be a powerful research approach," comments epidemiologist Michael Rosanoff, Autism Speaks associate director for public health research. "It assesses the quality of data across multiple studies and combines the highest-quality data to give us a 'higher definition picture' of the relationship between potential risk factors and autism."

Two more reasons to write

In just a moment, I will explain to you how absurd it is to treat this meta-analysis as anything more than a "garbage in-garbage out" study, but before I do, I want you to understand why I'm actually taking the time to write this article. Like you, I'm a busy parent, I'm not paid to write these articles, and I can't waste my time on every topic in this debate, but two things recently happened that pushed me over the edge:

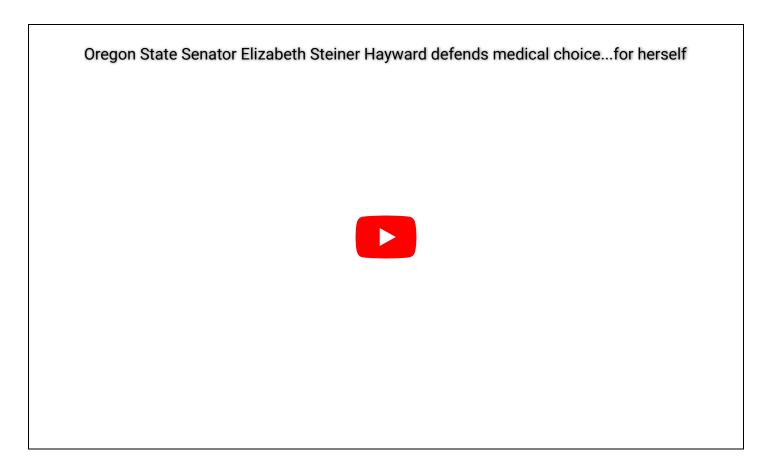
1. Quick story: some leading activists in the autism community met with one of the most senior members of the National Institutes of Health. They pressed this newly-appointed person that the science on whether or not vaccines cause autism remained wide open. He disagreed. They asked him for his evidence. He said he would follow up with the studies he relied upon to convince him this debate is settled. Later, an email arrived. He sent a single link. To the Taylor study!

2. Four days ago, and this was really the final straw for me, my own State Senator here in



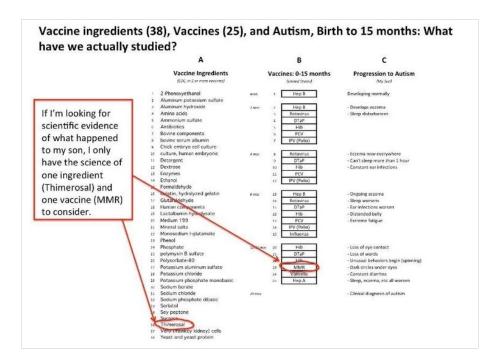
Portland, Oregon, Elizabeth Steiner-Hayward, posted the Taylor study on her Facebook page, and referred to it as an "Important new study" despite the fact that it's four years old...and added the deeply galling hashtag "#sciencematters." Many of you might recognize Senator Steiner-Hayward's name, as she was the cranky sponsor of a 2015 bill that would have made vaccines mandatory here in Oregon. Her mean-spirited campaign cratered, but not before she proved to many that her mastery of the vaccine-autism debate involved copying and pasting anything that exonerated vaccines, sort of like her recent Facebook post. While it's not entirely germane to the topic at hand, there's never a bad time to share this short video of Senator Steiner-Hayward, who happens to also be a

"family doctor" who vaccinates children for a living:



The Taylor Study: Fundamental Flaw

I'm going to start with the punchline. It's maddening, really, how often I have to explain this simple concept to people. I guess it speaks to what a great job P.R. firms have done convincing the public that the "science is settled" about whether or not vaccines cause autism. Here's an image, and by itself, it pretty much renders the Taylor study useless:



So what are you looking at? This is a simple table that shows three things:

- 1. **Column A** shows 38 separate ingredients that are included in AT LEAST two vaccines given to children in the United States.
- 2. **Column B** shows the first 25 vaccines given to American children in the first 15 months of their life, if they follow the CDC's recommended schedule.
- 3. **Column C** shows my son's progression into autism over time. Note that he was very sick long before he received the MMR vaccine, which American children typically get at their 12 month vaccine appointment.

Finally, the red circles show something very important. And, this is really the point.

The red circles show the two things that the Taylor Study actually considered in relation to autism: the MMR vaccine, and the mercury-based ingredient Thimerosal. That's it.

But what about all the other things injected into children when they get vaccinated? What about the 37 other ingredients and what about every other vaccine except MMR? The Taylor "meta-analysis"—which only analyzed studies looking at the MMR vaccine or Thimerosal—would provide no answers. Don't believe me? As you probably know, a "meta-analysis" is an analysis of other studies. The conclusions and data of each study are aggregated, and the hope is that by comparing all these studies, the conclusions reached will be even more robust. It makes sense, and is often helpful. But, it can't be helpful if the group of studies in your "meta-analysis" only looked at one ingredient and one vaccine. If you actually read the details of the Taylor Study itself, the authors are quite clear about how narrow the scope of the studies they included in their meta-analysis really were:

"Studies were included that looked at either MMR vaccination, cumulative mercury (Hg) or cumulative thimerosal dosage from vaccinations..."

The Meta-Analysis Studies

Since the authors just affirmed that they only compared autism rates to either Thimerosal (mercury) or MMR, I won't belabor this point, but here are the actual studies that were included in their meta-analysis, all 10 of them, the titles reveal what was actually looked at:

MMR Studies: 6

- 1. "A population-based study of measles, mumps, and rubella vaccination and autism."
- 2. "MMR-vaccine and regression in autism spectrum disorders: negative results presented from Japan."
- 3. "Age at first measles–mumps–rubella vaccination in children with autism and school- matched control subjects: a population-based study in metropolitan Atlanta."
- 4. "Lack of association between measles-mumps-rubella vaccination and autism in children: a case-control study."
- 5. "MMR vaccination and pervasive developmental disorders: a case-control study."
- 6. "The combined measles, mumps, and rubella vaccines and the total number of vaccines are not associated with development of autism spectrum disorder: the first case-control study in Asia."

Thimerosal Studies: 4

- 1. "Thimerosal exposure in infants and developmental disorders: a retrospective cohort study in the United Kingdom does not support a causal association."
- 2. "Safety of thimerosal containing vaccines: a two-phased study of computerized health maintenance organization databases."
- 3. "Association between thimerosal-containing vaccine and autism."
- 4. "Prenatal and infant exposure to thimerosal from vaccines and immunoglobulins and risk of autism."

Importantly, every single child in every single study included in this meta-analysis HAD BEEN VACCINATED. Really.

Before I move on, I want to mention one other study that often gets thrown in my face as "proof" vaccines don't cause autism. It's often called the "Sibling MMR" study, and it was created by a consulting firm to pharmaceutical companies, The Lewin Group. In the study, the authors misappropriate the word "unvaccinated" which confused many. I do my best to explain in this article:

Diabolically dishonest: Lewin Group's MMR-autism sibling study

An excellent website, Vaccine Papers, also debunked The Lewin Group's study. Here's a quote:

"The Jain [Lewin Group] study only looked at MMR. Media reports about this study have falsely and deceptively asserted that the Jain study shows that "vaccines" in general do not cause autism. In reality, the Jain study says nothing about other vaccines. The MMR vaccine is the only vaccine that has been much studied in relation to autism, and all of the MMR-autism studies suffer from HUB. The other likely more dangerous aluminum-containing vaccines, given at younger ages, have hardly been studied at all. It is a blatant lie to claim that the science shows "vaccines" in general do not cause autism.

The science actually shows the opposite. Controlled animal experiments overwhelmingly prove that immune activation (i.e., interleukin-6) in the developing brain causes autism. Animal experiments also prove that aluminum adjuvant causes brain damage, at dosages human infants routinely receive from vaccines."

VAERS Madness

There are two excerpts from the study itself that simply need to be seen to be believed. One of the study authors actually witnessed his two children experience seizures after their vaccines, including one that was a "serious event." His solution? Give vaccines in the morning so you can watch for seizures.

He recommends reporting adverse events to the Vaccine Adverse Event Reporting System ("VAERS"). At the same time, any studies that included VAERS data were excluded from consideration for the meta-analysis...you can't make this stuff up! (Some unsolicited parenting advice: If your child has a seizure after you give them something, maybe don't give them that thing again?)

If you observe a decline in your child's neuro status report it to VAERS where it can be ignored.

2.2. Eligibility criteria

This review included retrospective and prospective cohort studies and case-control studies published in any language looking at the relationship between vaccination and disorders on the autistic spectrum. No limits were placed on publication date, publication status, or participant characteristics. Studies were included that looked at either MMR vaccination, cumulative mercury (Hg) or cumulative thimerosal dosage from vaccinations to ensure all proposed causes of ASD or regression were investigated. Outcome measures included development of any condition on the autistic spectrum as well as those specifically looking at regressive phenotype. Papers that recruited their cohort of participants solely from the Vaccine Adverse Event Reporting System (VAERS) in the United States were not included due to its many limitations and high risk of bias including unverified reports, underreporting, inconsistent data quality, absence of an unvaccinated control group and many reports being filed in connection with litigation [5,6]. We excluded studies that did not meet the inclusion criteria.

5. Epilogue

As an epidemiologist I believe the data that is presented in this meta-analysis. However, as a parent of three children I have some understanding of the fears associated with reactions and effects of vaccines. My first two children have had febrile seizures after routine vaccinations, one of them a serious event. These events did not stop me from vaccinating my third child, however, I did take some proactive measures to reduce the risk of similar adverse effects. I vaccinated my child in the morning so that we were aware if any early adverse reaction during the day and I also gave my child a dose of paracetamol 30 min before the vaccination was given to reduce any fever that might develop after the injection. As a parent I know my children better than anyone and I equate their seizures to the effects of the vaccination by increasing their body temperature. For parents who do notice a significant change in their child's cognitive function and behaviour after a vaccination I encourage you to report these events immediately to your family physician and to the 'Vaccine Adverse Event Reporting System'.

"Saddest paper I've ever seen"

Dr. William Thompson, a CDC scientist and head epidemiologist of the National Immunization Program, has become well-known in the autism community for his decision to blow the whistle about the MMR #3 study above, stating that, "I regret that my coauthors and I omitted statistically significant information in our 2004 article published in the journal *Pediatrics*." Dr. Thompson had multiple phone conversations recorded while speaking with an autism dad, Dr. Brian Hooker. In one of those conversations, Dr. Thompson, the leading autism-vaccine epidemiologist in the world at the time, had

this to say about the Taylor study:

DR. THOMPSON: Oh God. That meta-analysis was the saddest paper I've ever seen. The amount of press that piece of crap paper got was so depressing.

Dr. Hooker: Right.

DR. THOMPSON: It just . . . It was mind-numbing to think how much press that got which described it as a nail in the coffin. [Frustrated noise.] Anyway. [Edited due to sensitive personal information.]

Epidemiology vs. Biology

All the science included in the Taylor study, as narrow as the scope of the studies are, was epidemiology. Scientists are looking at data, in this case medical records and vaccination records of children, and they're analyzing them to look for patterns and relationships. But, there's a different kind of science that's more revealing. It's biological science, the kind Vaccine Papers referred to in the above quote. It's science looking at living things and how they actually respond to other things. In the vaccine-autism debate, we have a growing body of biological science. It's compelling, and it's all very recent. We have mice studies where the mice are injected with vaccine ingredients, producing devastating results. And, we have clear biological plausibility for how, exactly, a vaccine can cause autism in a child. That's not the point of this post, but it is the point of an article I wrote a few weeks ago, and you can read about it right here:

International scientists have found autism's cause. What will Americans do?

Needless to say, the Taylor study didn't contemplate ANY of the compelling biological science linking vaccines to autism.

Asking the Right Question

If science doesn't ask the right question, the answer a study produces is useless. Perhaps the biggest issue with the science done to date to assess the relationship between vaccines and autism is that it doesn't reflect the real world of how vaccines are administered and the feedback from parents on how this impacts their children.

In 1983, the maximum number of separate vaccines a child would receive by the age of five was 10. Today, that number is 38. By the time a child is five years old, if their parents follow the CDC's recommended schedule, they will have received the following vaccines, many in multiple doses (the doses are what get you from 11 to 38: you get DTaP 4 times, for example):

- 1. Hepatitis B
- 2. Rotavirus
- 3. DTaP
- 4. Hib
- 5. Pneumococcal
- 6. Polio
- 7. Flu
- 8. MMR
- 9. Varicella
- 10. Hepatitis A
- 11. Meningococcal

Of the 11 separate diseases covered above, there are actually 34 separate vaccines licensed with the FDA. For example, your child might receive either Rotateq or Rotarix, each of which has been developed in a separate and unique way to address the disease Rotavirus. The possible combinations of total vaccines your child might receive are almost infinite: my child got the Merck Hep B, but the Sanofi Flu, etc, etc. So, in a single two-month-old visit, the average American child will receive six separate vaccines in about five minutes (or less, if you can stomach watching this video-PTSD warning for autism parents):

- 1. Hepatitis B
- 2. Rotavirus
- 3. DTaP
- 4. Hib
- 5. Pneumococcal
- 6. Polio

Two months later, at four months of age, most children in America will again receive the same six vaccines, all administered at the same time:

- 1. Hepatitis B
- 2. Rotavirus
- 3. DTaP
- 4. Hib
- 5. Pneumococcal
- 6. Polio

Two months later, at six months of age, most children in America then receive seven vaccines, all administered at the same time:

- 1. Hepatitis B
- 2. Rotavirus
- 3. DTaP
- 4. Hib
- 5. Pneumococcal
- 6. Polio
- 7. Flu

So, by six months of age most American children receive **19 vaccines** through three visits to the doctor. (It's worth noting that many kids also receive a birth dose of Hepatitis B, boosting this number to 20 vaccines.)

So, of the first 20 shots given to kids, how many have been studied for their relationship to autism? As you know from the Taylor study, the answer is ZERO, because only one vaccine, the MMR, has ever been studied for its relationship to autism. The MMR is first administered to American children at 12 months of age. I explained this to Dr. Stork on a memorable appearance I made on The Doctors, I think his reaction shows you what happens when you show up a doctor on his TV show.

They keep trying to tell us "vaccines don't cause autism" without doing the actual science with the proper control groups ...

But what about the two, four, and six month well-baby visits where children receive so many vaccines? They have never been studied or considered, so no one has any idea. This would be like trying to identify the source of a plane crash, suspecting mechanical failure, solely analyzing one of the wings, and then declaring the entire airplane free of culpability. But, that's exactly what has happened. They keep trying to tell us "vaccines don't cause autism" without doing the actual science with the proper control groups (fully unvaccinated children) and asking the right question, that goes something like this:

Our children receive 38 vaccines by the time they are five, including 20 by their first birthday. Is the administration of so many vaccines causing autism in certain children?

That question, so important to the health of our children and our nation, has never been asked, so it can't be answered. which begs the question:

Have scientists ever compared vaccinated children to unvaccinated children for ANY vaccine or ANY negative outcome?

In fact, they have. You just haven't heard about these studies because the answers challenge the current narrative that vaccines are "safe and effective" and don't cause autism. Read on.

Unvaccinated Studies

The first study that compared children who had received a vaccine to children that hadn't was actually published in 2000. Although autism wasn't something the study considered, it was still revealing. Titled "Effects of Diphtheria-Tetanus-Pertussis or Tetanus Vaccination on Allergies and Allergy-Related Respiratory Symptoms Among Children and Adolescents in the United States," this study from the UCLA school of public health did look specifically at the DTP vaccine to see if it might be responsible for allergies and allergy-related symptoms, like asthma. Looking at more than 13,000 children, the study found that:

"DTP or tetanus vaccination in US children is associated with lifetime history of asthma or other allergies and allergy- related symptoms... assuming that the estimated vaccination effect is unbiased, 50% of diagnosed asthma cases (2.93 million) in US children and adolescents would be prevented if the DTP or tetanus vaccination was not administered."

So, the first study to ever compare a group that received a vaccine to a group that didn't found a dramatic difference in rates of asthma and allergies amongst the vaccinated group, so much so that they thought not getting the DTP vaccine might reduce cases of asthma by 50%! Note that many children with autism suffer from what are known as "co-morbid" conditions like asthma, allergies, and other auto-immune conditions.

In 2008, in the second study ever looking at a group of children who didn't receive a vaccine, public health researchers Carolyn Gallagher and Melody Goodman from SUNY-Stony Brook looked at the possible relationship between the Hepatitis B vaccine and special education. Were children who received the full series of Hepatitis B vaccines (three separate vaccines, the first one often given on Day 1 of life) more likely to end up in special education classes than children who didn't receive any Hepatitis B vaccines? The study, "Hepatitis B triple series vaccine and developmental disability in US children aged 1-9 years," was published in the journal *Toxicological and Environmental Chemistry*, and the results were clear, the full series of Hepatitis B led to a nine-fold greater likelihood of receiving special education:

"This study found statistically significant evidence to suggest that boys in United States who were vaccinated with the triple series Hepatitis B vaccine...were more susceptible to developmental disability than were unvaccinated boys...The odds of receiving EIS [special education] were approximately nine times as great for vaccinated boys (n = 46) as for unvaccinated boys (n = 7), after adjustment for confounders."

The same researchers from SUNY-Stony Brook published another study in 2010, this time looking at the relationship between receiving the Hepatitis B vaccine and autism. Published in the prestigious *Journal of Toxicological and Environmental Health*, "Hepatitis B Vaccination in Male Neonates and Autism Diagnosis" once again reached very clear conclusions: "Boys vaccinated as neonates had threefold greater odds for autism diagnosis compared to boys never vaccinated or vaccinated after the first month of life." Journalist David Kirby appreciated the significance of the new findings, writing in the *Huffington Post*:

"[the study] will be among the first university-based population studies to suggest an association between a vaccine and an increased risk for autism. And that would be in direct contradiction to all those MMR and thimerosal studies that purportedly found no such link."

(The two Goodman and Gallagher articles about Hepatitis B raise many concerns. I've met pediatricians who feel that the Hepatitis B vaccine specifically has triggered the epidemic of neurological disorders and autoimmunity we now see in our children. Hepatitis B was the first vaccine introduced after Congress indemnified vaccine makers from liability in 1986. The vaccine has a high dose of aluminum, which the new biological science is proving is likely a primary culprit of autism, and it's often given to babies on Day 1 of life, which many doctors feel is a huge mistake.)

In 2017, another study revealed that the DTP vaccine in Africa killed more children than it helped. Published in the peer-reviewed journal *EBioMedicine*, the study is titled, "The Introduction of Diphtheria-Tetanus-Pertussis and Oral Polio Vaccine Among Young Infants in an Urban African Community: A Natural Experiment."

Researchers from the Center for Vitamins and Vaccines, Statens Serum Institut (Denmark), and Bandim health project looked closely at data from the West African nation of Guinea-Bissau and found that the data for children who had been vaccinated with the DTP vaccine

"was associated with 5-fold higher mortality than being unvaccinated. No prospective study has shown beneficial survival effects of DTP...DTP is the most widely used vaccine...All currently available evidence suggests that DTP vaccine may kill more children from other causes than it saves from diphtheria, tetanus or pertussis. Though a vaccine protects children against the target disease it may simultaneously increase susceptibility to unrelated infections."

The scientists in this study closely explored the concept of "NSEs" which are "non-specific effects" of vaccines, which is a fancy way of saying vaccines may make a child more susceptible to other infections, explaining that although "protective against the target diseases, DTP may increase susceptibility to unrelated infections." What we learn from the African study is that children going through the artificial disease process triggered by a vaccine are actually more susceptible to suffer from (and sometimes die) from other diseases, because their immune system is weakened and compromised in ways we really don't yet understand. This was a "natural" experiment looking at vaccinated children versus unvaccinated children, and Dr. Aaby doubled-down on this study by recently publishing a follow up paper this month titled, "Evidence of Increase in Mortality After the Introduction of Diphtheria-Tetanus-Pertussis Vaccine to Children Aged 6-35 Months in Guinea-Bissau: A Time for Reflection?" Dr. Aaby, a highly respected international vaccine researcher, asks questions in this brand new paper few are willing to ask:

"Given the threat from diphtheria, tetanus, and pertussis and the less-effective acellular pertussis vaccine used in many countries, it is understandable that there has been reluctance in accepting that DTP could have negative effects for overall health in low-income countries. However, the studies from low-income countries have been consistent in showing deleterious effect of DTP...Hence, it would seem to be high time to settle whether DTP has negative effects on overall child health and if it has negative effects to explore whether alternative vaccination schedules could remove the problem."

Also in 2017, something amazing happened. Two separate studies comparing vaccinated and completely unvaccinated children actually got published. Unlike the Goodman and Gallagher studies above, which only explored a single vaccine, Hepatitis B (the rest of a child's vaccine status was simply not considered), these two new studies met the "gold standard"—they found children who had never received any vaccines, and looked at their health outcomes in a variety of ways versus their vaccinated peers. The public health researchers from Jackson State University originally planned to publish a single study, until they looked at the data on children born prematurely, noting the data on the difference in health outcomes for vaccinated versus unvaccinated premature infants was so dramatic it deserved its own separate study.

...its results were so devastating to the U.S. vaccine program, there wasn't a single media outlet in the country that covered its release.

Published in the *Journal of Translational Science*, the first groundbreaking study was called "Pilot comparative study on the health of vaccinated and unvaccinated 6- to 12-year-old U.S. children," and its results were so devastating to the U.S. vaccine program, there wasn't a single media outlet in the country that covered its release. Comparing vaccinated children to completely unvaccinated children, the results were no surprise to me, my wife, or any of the autism parents I know, but perhaps would surprise others:

"The vaccinated were less likely than the unvaccinated to have been diagnosed with chickenpox and pertussis, but more likely to have been diagnosed with pneumonia, otitis media, allergies and NDD. After adjustment, vaccination, male gender, and preterm birth remained significantly associated with NDD [neurodevelopmental disorders]." Specifically, vaccinated children were found to have a 4-fold higher likelihood of having autism. I'm reminded of a quote by Dr. Daniel Niedes of the Cleveland Clinic who said, "Some of the vaccines have helped reduce the incidence of childhood communicable diseases [like chickenpox and pertussis from the study above]...but not at the expense of neurologic diseases like autism and ADHD increasing at alarming rates."

Simultaneously, the Jackson State authors published a study just looking at children born prematurely in the same journal titled "Preterm birth, vaccination and neurodevelopmental disorders: a cross-sectional study of 6- to 12-year-old vaccinated and unvaccinated children." The results were disturbing, as the researchers found children born prematurely and vaccinated were 14-times more likely to develop a neurodevelopmental disorder! The authors were appropriately concerned:

"Preterm birth coupled with vaccination, however, was associated with a synergistic increase in the odds of NDD, suggesting the possibility that vaccination could precipitate adverse neurodevelopmental outcomes in preterm infants. These results provide clues to the epidemiology and causation of NDD but question the safety of current vaccination programs for preterm infants."

Conclusion

The ongoing use of the Taylor study meta-analysis to "prove" that vaccines and autism are unrelated is scientifically dishonest and a distraction. The ten studies in the meta-analysis only consider a single vaccine ingredient (thimerosal) and a single vaccine (MMR). Every child in every study they analyzed had been vaccinated. They don't consider the obvious question: do vaccinated children have higher rates of autism than unvaccinated children? People who post

this study as proof that vaccines don't cause autism are either uninformed on this topic or looking to mislead.

Meanwhile, the biological evidence, through peer-reviewed, published studies is mounting that vaccines trigger immune activation events in the brains of babies that lead to autism. (Here's an excellent 20 page paper with 97 references explaining exactly how this happens.) The fact that Autism Speaks and one of the most senior leaders of the National Institutes of Health (and a doctorturned-senator from Oregon) consider the Taylor study proof of anything tells me that many people just want this topic to go away, because facing the emerging science, and the endless stories of devastated families who watched their children regress into autism after vaccine appointments, is too overwhelming for many who have stood by and allowed the autism epidemic to happen. Worse, a manipulative and dishonest study like the Taylor study falsely reassures parents, leading to the ongoing and unnecessary path to autism so many of our children are placed on by a vaccine schedule that's so harmful to so many.

When will the madness end?

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